UNITED STATES DEPARTMENT OF AGRICULTURE
Agricultural Research Service
Animal Disease and Parasite Research Branch

INSTRUCTIONS FOR COLLECTING, HANDLING, AND SHIPPING BLUETONGUE SPECIMENS FOR LABORATORY EXAMINATION

The following suggestions are presented as a guide for selecting the goat, sheep, and/or cattle to bleed, a blood anticoagulant and preservative to use, the collection, handling and shipping of bluetongue infected blood samples and tissue specimens.

1. History of the Case to Accompany the Specimen.

2. Selecting the Goats and Sheep to Bleed: The selection of bluetongue infected animals from which to draw blood samples presents a problem because of the variation in their febrile response, clinical symptoms and lesions. Goats are usually regarded as resistant to bluetongue. However, cases of infection have been reported and blood samples are wanted. In sheep, there will generally be a rise in the body temperature to about 105° F. or even higher before clinical symptoms are manifested. It is during this early stage of infection that blood samples should be collected because the virus titre will be at its peak. It will be necessary to take the temperature of several apparently healthy sheep before finding some with temperature of 105° F. or higher. Bluetongue infected blood samples have been obtained from sheep showing the first clinical signs of the disease, which are: salivation, an accumulation of frothy saliva at the commissures of the lips, frequent movement of the lips and tongue, serous nasal discharge and reddening of the nasal and buccal mucosa. However, in the event no early cases are detected, blood samples should be obtained from animals exhibiting typical symptoms and lesions of bluetongue even though their temperatures are normal at the time of examination.

3. Selecting Cattle to Bleed: Before collecting blood samples from cattle, which are associating with or that are in the near vicinity of bluetongue infected sheep, each animal should be examined for lesions characteristic of bluetongue and have its temperature taken. It is preferable to obtain blood samples in the following order of importance from individual animals that show:

   a. A rise in temperature only

   b. A rise in temperature and lesions

   c. Lesions only

   d. Nothing indicative of infection

4. Anticoagulant and Preservative Solution in Bottles: In order to make it convenient for the veterinarian and to assure more protection to the bluetongue virus in the blood sample while in transit, the Denver Animal Disease Research Laboratory will supply:

   a. Rubber stoppered 20 ml. bottles containing 10 ml. of an anticoagulant and preservative solution prepared as follows:

OPG Solution

Potassium oxalate	0.5 gm.
Phenol	0.5 gm.
Glycerin	50. ml.
Distilled water	50. ml.

   Volume of blood to OPG solution: Blood is added in equal parts (10 ml.) to the OPG solution in the bottle. Shake the bottle to mix the blood and OPG. Collected samples should NOT BE FROZEN but should be held in a cool place or in an ordinary refrigerator at 3° to 5° C. (37.5° to 41° F.) until shipped to the laboratory. No refrigerant is required during transit of the blood sample when it is mixed with the OPG solution.

   b. Shipping containers for the bottles.

5. Collecting Blood Samples:

   a. Avoid possible means of contamination in collecting the blood samples. Use a sterile syringe and needle or bleeding needle for each animal. When a bleeding needle is used, collect enough blood in the OPG solution to fill the bottle to the base of neck.

   b. When undiluted whole blood samples are sent to the laboratory, they should be kept cool during transit. This can be accomplished by putting one or two small tight cans of frozen water, wrapped with several thickness of paper, in the shipping container.

   c. Number each blood sample to correspond with history of animal. Caution: Do not freeze blood samples that are to be submitted for bluetongue diagnosis. Blood infected with bluetongue virus may be kept under ordinary refrigeration at 3° to 5° C. (37.5° to 41° F.) temperature.

6. Send Specimens To:

Animal Disease Research Laboratory
USDA Agricultural Research Service
Building 45, Denver Federal Center
Denver 2, Colorado

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BLUETONGUE QUESTIONNAIRE

This form to be completed and submitted with bluetongue specimens to:

Animal Disease Research Laboratory
USDA Agricultural Research Service
Building 45, Denver Federal Center
Denver 2, Colorado

Owner:_____ Date:_____

Address:_____

Veterinarian:_____

Address:_____

Specimen submitted:_____

HISTORY

No. of animals in flock:_____ In herd:_____

Species of animal:_____ Age:_____ Sex:_____

Local animals:_____ Animals shipped in:_____

Date shipped:_____ Fed and watered at:_____

Date of arrival and destination:_____

Date first observed disease:_____ No. of sick animals_____

No. of deaths:_____ Incidence of bluetongue in area:_____

Were the animals vaccinated for bluetongue:_____

Date vaccinated_____By:_____

Remarks:_____

_____

_____

Submit blood samples from at least 4 animals if possible.

Symptoms and lesions exhibited by animal bled:

Animal No. 1 - Temperature_____Symptoms:_____

_____

_____

_____

Animal No. 2 - Temperature_____Symptoms:_____

_____

_____

_____

Animal No. 3 - Temperature_____Symptoms:_____

_____

_____

_____

Animal No. 4 - Temperature_____Symptoms:_____

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